

Chapter 3 Review  
p.182-183  
q. 1-9

Ch 2  
p 120-121  
1, 3-6, 8-13, 15-19

# Test Wednesday

Oct 12-7:51 AM

## Section 2.1 - Expansion Fol

$$(x+7)(x-3) \Rightarrow x^2 + 7x - 3x - 21$$

## Section 2.2 - Factoring (common)

$$27x^2 - 9x = 9x(3x-1)$$

## Section 2.3 - Decomposition

$$x^2 + 9x + 20 \rightarrow 4 \quad 17 \quad 20$$

## Section 2.4 - Special Factoring

$$49a^2 + 42a + 9 = 0$$

$$7a \quad \times \quad 3 \quad \checkmark \quad 2 = 42a$$

$$(7a+3)^2 \quad (a^2-9)$$

## Steps Factoring

- common factor
- perfect squares / difference of squares
- decomposition
- nonfactorable / guess formula

Oct 13-9:44 AM

$$x^2 - 2x - 35 \quad \begin{array}{r} A \mid M \\ -2 \quad -35 \end{array}$$

$$x^2 - 7x + 5x - 35$$

$$(x-7)(x+5) \quad \begin{array}{r} -7 \quad -5 \end{array}$$

$$7, -5 \quad \frac{s+t}{2} = \frac{7-5}{2} = \frac{2}{2} = 1$$

Oct 13-10:19 AM

$$2x^2 + 7x + 3 \quad \begin{array}{r} A \mid M \\ +7 \quad +6 \end{array}$$

$$2x^2 + 1x + 6x + 3$$

$$x(2x+1) + 3(2x+1) \quad +1+6$$

$$(2x+1)(x+3) \quad \begin{array}{r} 2 \quad 3 \end{array}$$

$$s = \frac{1}{2}, t = -3$$

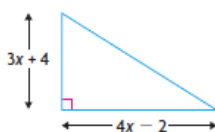
Oct 13-10:32 AM

## MCF 3M Test Preparation Ch 2 & 3

### 9. Factor.

- a)  $x^2 + 2x - 15$       c)  $x^2 - 12x + 35$   
b)  $n^2 - 8n + 12$       d)  $2a^2 - 2a - 24$

3. Write a simplified expression to represent the area of the triangle shown.



Oct 14-10:45 AM

## MCF 3M Test Preparation Ch 2 & 3

### 9. Factor.

- a)  $x^2 + 2x - 15$       c)  $x^2 - 12x + 35$   
b)  $n^2 - 8n + 12$       d)  $2a^2 - 2a - 24$

$$A \mid M$$

$$+2 \quad -15$$

$$-3 \quad 10$$

$$x^2 + 5x - 3x - 15$$

$$x(x+5) - 3(x+5)$$

$$(x+5)(x-3)$$

$$2a^2 - 2a - 24$$

$$2(a^2 - a - 12) \quad \begin{array}{r} A \mid M \\ -1 \quad -12 \end{array}$$

$$2(a^2 + 3a - 4a - 12)$$

$$2(a(a+3) - 4(a+3))$$

$$2(a+3)(a-4)$$

3. Write a simplified expression to represent the area of the triangle shown.

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(4x-2)(3x+4)$$

$$A = \frac{1}{2}(12x^2 + 16x - 6x - 8)$$

$$A = \frac{1}{2}(12x^2 + 10x - 8)$$

$$A = 6x^2 + 5x - 4$$

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$$x^2 - 12x + 35$$

A	M
-12	+35

$$x^2 - 7x - 5x + 35$$

$$x(x-7) - 5(x-7)$$

$$(x-7)(x-5)$$

1	5
7	

Oct 3-8:36 AM

5. Factor.

a)  $8x^2 + 10x + 3$

d)  $15x^2 - 4x - 4$

13. Factor.

a)  $6x^2 + 11xy + 3y^2$

c)  $8x^2 - 14xy + 3y^2$

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5. Factor.

a)  $8x^2 + 10x + 3$       d)  $15x^2 - 4x - 4$

A	M
8x <sup>2</sup> + 6x + 4x + 3 + 10	+24

$$2x(4x+3) + 1(4x+3)$$

$$(2x+1)(4x+3)$$

A	M
-4	-60

$$+6 \quad -10$$

13. Factor.

a)  $6x^2 + 11xy + 3y^2$       c)  $8x^2 - 14xy + 3y^2$

A	M
6x <sup>2</sup> + 9xy + 2xy + 3y <sup>2</sup> + 11	+18

$$3x(2x+3y) + y(2x+3y)$$

$$(2x+3y)(3x+y)$$

9	2
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7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function  $h(t) = -5t^2 + 10t$ , where  $h(t)$  is in metres and  $t$  is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

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7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function  $h(t) = -5t^2 + 10t$ , where  $h(t)$  is in metres and  $t$  is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

$$h(t) = -5t^2 + 10t$$

$$1 = -5t^2 + 10t$$

$$0 = -5t^2 + 10t - 1$$

TI 83 solve for roots

$$h(t) = -5t^2 + 10t$$

$$h(t) = -5t(t-2)$$

$$0 = -5t \quad 0 = t-2$$

$$t = 0 \quad t = 2$$

$$\frac{t_1 + t_2}{2} = \frac{0 + 2}{2} = \frac{2}{2} = 1$$

$$h(t) = -5t^2 + 10t$$

$$h(1) = -5(1)^2 + 10(1)$$

$$h(1) = -5(1) + 10$$

$$h(1) = -5 + 10$$

$$h(1) = 5$$

$h(1) = 5$

(1, 5)

It is a dangerous ball because at 1 sec the ball reaches 5 m in the air.

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